

A study of factors influencing prescription pattern by Physicians with reference to Oral Anti-Diabetes in Nagpur City

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Abstract

For pharmaceutical industry, selling is not direct; Doctors are their indirect customers (core), who prescribe their medicines (brands), which results into consumers (Patients) buying those medicines from a chemist shop. For controlling type 2 diabetes, Oral Anti-Diabetes (OAD's) plays a vital role for controlling glucose levels in the blood.

However, with the growing competition & with the availability of so many OAD brand (me- too), designing an effective promotional strategies is essential & difficult for the growth of brand. For achieving that, it is must to understand the factors which influences Doctor's (Physicians) prescription behaviour & their preferences towards drug. Designing effective promotional strategies can be one of the ways which can differentiate a brand from its competition & help the brand to achieve new heights. The factors which normally influences their prescription pattern are – **Research Molecule** - its efficacy & Control, Availability of Brand & its Price, Medical representatives - frequency of visits, relationship with Doctors, ownership of brand, Sponsorships of Conferences & CME, Various inputs and high end gifts, patient benefit programmes and detection camps.

The study aims at finding out their preference and impact of promotional strategies, which influences their prescription behaviour, which will help the pharmaceutical companies to design their promotional strategies in future.

A questionnaire was collected from 60 Physicians, and it was concluded that Research Molecule (Pioneer brand) and Sponsorships for conferences & CME are the most influential factor impacting prescription behaviour of doctors.

Keywords: Pharmaceutical Selling, Physicians, Medical Representatives, OAD's.

Introduction

Pharmaceutical industry is one of the biggest markets in the world. Lot of time, efforts and investments are being made to research a drug and identify a market to market the drug. For making a huge brand, along with efficacy of the drug (effective molecule) it is required to have a good back up of marketing strategies & promotional activities.

Pharmaceutical Selling is different & unique than FMCG or other industries; here the actual customer is doctor (physician), who prescribes medicine (brand) & the patient who is the real customer simply buys brand from the chemist shop. The decision of prescribing brand totally lies with the physician. Apart from the type of disease, patient's compliance and control, their paying capacity, there are many factors which decide

the prescription pattern of physician. Therefore, it is vital for the pharmaceutical sales personnel (**Medical Representatives**) to determine their prescription pattern. **The study aims to examine the different factors which influence their prescription pattern particularly referring to oral anti diabetic drugs (OAD's).**

Medical representatives (**M.R.**) are the one who act as front line sale people to promote & made the brand. They are the key link between pharmaceutical or medical equipment companies and healthcare professionals. They are responsible for building a network with healthcare professionals to promote product awareness, answer queries regarding usage of products, provide advice and help introduce new products. They are usually assigned a geographical territory within which they work. Their primary responsibility is to establish and maintain contact with the customers with the goal of maximizing sales.

Being a niche and knowledge-driven sector, medical companies generally prefer graduates with relevant qualifications in life sciences, pharmacy, medicine, nursing or dentistry to be able to understand the products well. Various Competencies and Skills required for them are-

- **Strong communication skills** - Medical representative are the key link between companies and customers and hence it is very important that the representative is able to effectively communicate about the superiority and benefit of product and brand to doctors and other medical staff.
- **Good interpersonal skills** - Being able to establish contact, build trust and grow network is an important part of the job. Employers look for candidates with good interpersonal skills.
- **Strong understanding of product** - The candidate must not only have a basic understanding of products and industry, but should also be able to learn about new products and technology quickly. He/ she should be able to understand and present clinical data.
- **Sales and results** - The candidate should be result driven and have good planning and organizational skills. He/she should be able to handle stress of targets and deadlines (apiring minds/medical representative, 19).

A physician, medical practitioner, is a professional who practises medicine, which is concerned with promoting, maintaining, or restoring health through the study, diagnosis, prognosis and treatment of disease, injury, and other physical and mental impairments. Physicians may focus their practice on certain disease categories, types of patients, and methods of treatment—known as specialities (Wikipedia, 2019).

Diabetes is a disease in which your blood glucose, or blood sugar, levels are too high. Glucose comes from the foods you eat. Insulin is a hormone that helps the glucose get into your cells to give them energy. With **type 1 diabetes**, your body does not make insulin. With **type 2 diabetes**, the more common type, your body does not make or use insulin well. Without enough insulin, the glucose stays in your blood (medlineplus/diabetes, 2019).

Type 2 diabetes is a chronic condition that affects the way your body metabolizes sugar (glucose) — an important source of fuel for your body. With type 2 diabetes, your body either resists the effects of insulin — a hormone that regulates the movement of sugar into your cells — or doesn't produce enough insulin to maintain normal glucose levels.

Some people who have type 2 diabetes can achieve their target blood sugar levels with diet and exercise alone, but many also need diabetes medications or insulin therapy. The decision about which medications are best depends on many factors, including your blood sugar level and any other health problems you have. Your doctor might combine drugs from different classes to help you control your blood sugar in several different ways.

Examples of possible treatments for type 2 diabetes include: Metformin (Glucophage, Glumetza, others), Sulfonylureas, Meglitinides, Thiazolidinedione's, DPP-4 inhibitors, GLP-1 receptor agonists, SGLT2 inhibitors (mayoclinic.org, 2019).

Physicians prescribe different OAD's & their combinations depending upon the level of glucose, control & patient's acceptability. However, they frequently change the brands as per their influences, choice & convenience as mostly all the brands deliver almost same results with near to same efficacy. Therefore it becomes all the more essential and required to understand and study the factors which influences physician prescription pattern by prescribing OAD's.

The factors influencing prescription behavior of physicians, discussed in the questionnaire are new research molecule or new research combination drug, Price of the product, Availability of the product, Communication made by MR the product quality that is being promoted. Name of the company for which brand belongs to which company, Free of cost samples of the drugs, free medical camps, Continuous Medical Education (CME's), Gifts & other promotional inputs, Incentives, Sponsorships to conferences (www.thepharmajournal.com/vol3Issue5/Issue_july_2014, 2017)

Literature Review

The researchers try to find out how drug promotion done by medical representatives influences the drug prescribing patterns of physician's. The study was conducted with structured questionnaire and 60 physicians were interviewed. It was found that MR's of different pharma companies are the common source of information and updates on drug developments. 50% of the physicians said that MR provides newer and latest updates on medicine which influence their prescriptions. Sales promotion and gifting strategy can also influence their decision making while selecting a brand (Shahu Ingole, 2010).

The researchers revealed that MR Visits and meet Doctors right from their college days, internship or when they are resident doctors & offer them small gifts like pen, pen stand, pads etc. Paper further revealed that, Doctors receive Inputs like Small gifts to high value gifts, medical activities, education sponsorship or CME's are being organized & sponsored by them which directly, indirectly influences their prescription patterns (R.K. BANSAL, 2005).

The researchers revealed that regular visits by medical representative is essential for doctor to prescribe product & if MR fails to visit him for over a month, he suspects the availability of those products (SHARMA, 2012).

In his paper he revealed 'the pharmaceutical industry follows the 'norm of reciprocity' – the obligation of helping those who have helped you. Based on this principle they gift doctors in expectation of return of prescriptions from them (Taneja, 2008).

The researchers revealed that determining product attributes & how doctors perceive your product is very essential, as it helps to determine the attributes that drive physicians (Saad Shamim-ul-Haq, 2014).

The researchers revealed that the various factors influencing prescription behaviour of physicians include Price of the product, Availability of the product, Communication made by MR, the product Quality, Name of the company, new Research molecule and new Research Combination drug, Samples of the drugs, free Medical Camps, product Folders, Continuous Medical Education (CME's), Gifts & other promotional inputs, Incentives, Sponsorships to conferences. Marketing strategies related to 4Ps influences the prescription behaviour of physicians was concluded in the study (Khosro, 2014).

The focus of their study was to find out when physician prescribe a medicine, which are the different factors which influences his prescription pattern like new research molecule, promotional tool or drug sample. However the study concluded that new research molecule and drug samples effect the physician prescription behaviour (ANKUSH, 2017).

Objective of the study:-

1. To analyse the factors influencing the prescription pattern of physicians particularly for OAD's?
2. To help the pharmaceutical companies in designing effective promotional strategies, for influencing their prescription pattern.

Limitation of Study

The study is conducted in Nagpur city only with a sample size of 60 Doctors only.

Methodology

Research Design

Questionnaire Design: A structured questionnaire was designed; the survey was conducted with 60 physicians of Nagpur city.

Primary Data: Primary data is collected through structured questionnaire from doctors of Nagpur city.

Secondary Data: Secondary data is collected from various journals, books & articles published in business newspapers & on internet.

Sample size: 60Physicians were randomly/stratified selected

The factors influencing prescription patterns were asked from physicians on a 5 rated (likert scale) i.e.

- Strongly Agree (5) ,Agree Disagree (4), Neutral (3), Disagree (2) &Strongly disagree (1)

Hypothesis 1:-

H0:- 'Research Molecule hardly influences the prescription pattern of physicians'

HA:- 'Research Molecule highly influences the prescription pattern of physicians'

Hypothesis 2:-

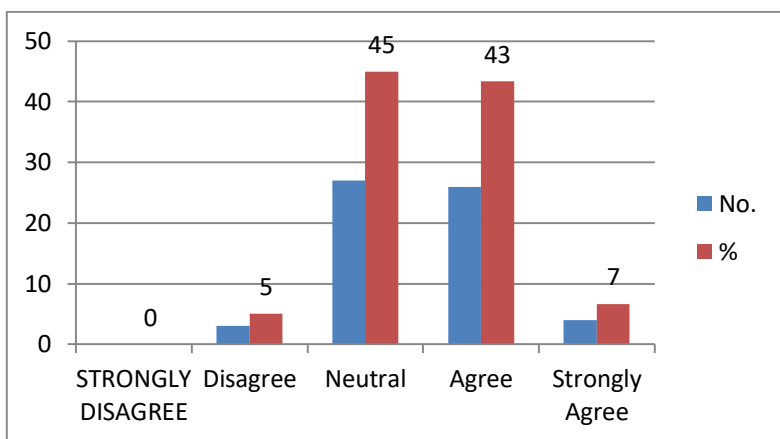
H0:- 'Prescription pattern of physician is not being effected by National/International Sponsorship of conferences by pharmaceutical companies'.

HA:- 'Prescription pattern of physician is being highly affected by National/International Sponsorship of conferences by pharmaceutical companies'.

Analysis of Data

Table 1 Does Price of product Influences Px. Patterns of Physicians.

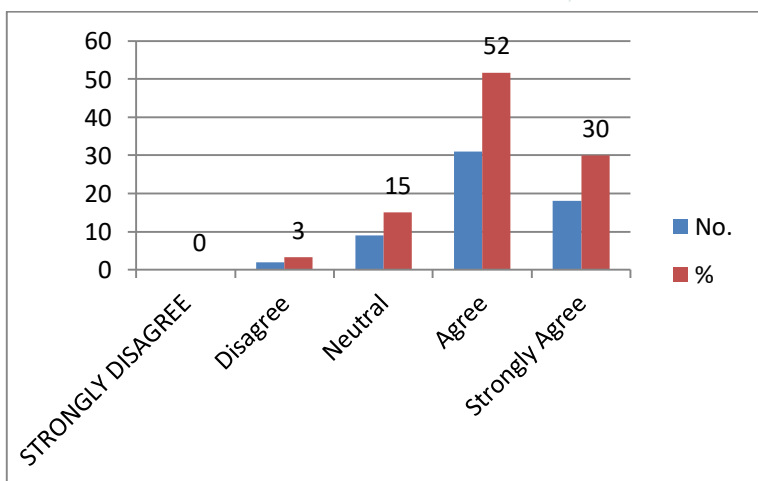
Weightage	No.	%
STRONGLY DISAGREE	0	0
Disagree	3	5
Neutral	27	45
Agree	26	43
Strongly Agree	4	7
	60	100



45% of Phy. are neutral & 43% of them agree that Price of brand influences their Px. Patterns.

Table 2 Does Research Molecule Influences Px. Patterns of Phy.

Weightage	No.	%
STRONGLY DISAGREE	0	0
Disagree	2	3
Neutral	9	15
Agree	31	52
Strongly Agree	18	30
	60	100

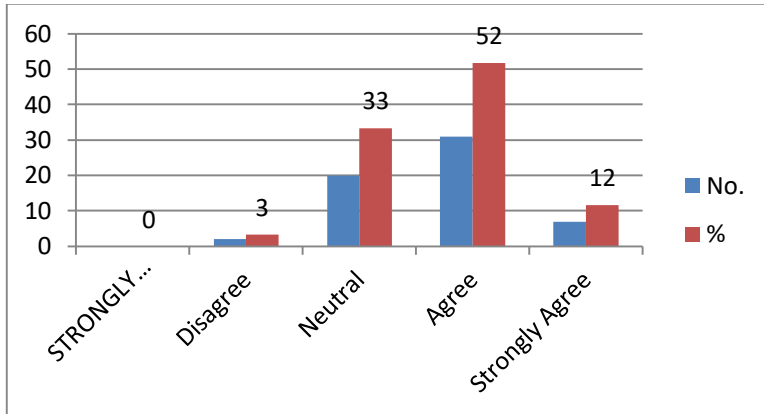


52% of Phy. agree & 30% strongly agree that Research Molecule influences their Px Patterns.

Does new Combination of drugs Influences Px. Patterns of

Table 3 **Phy.**

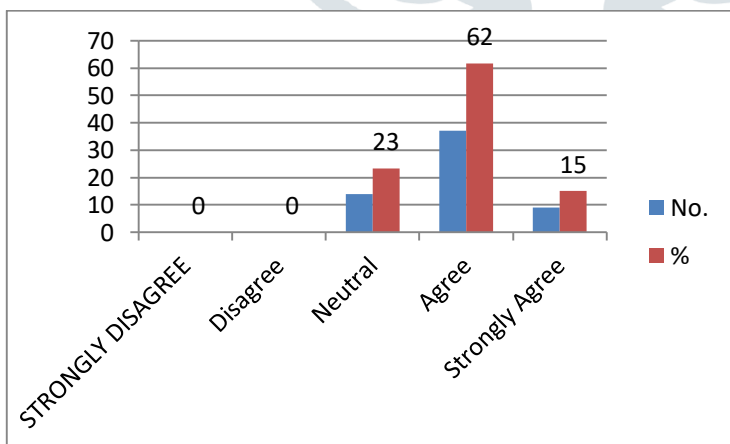
Weightage	No.	%
STRONGLY DISAGREE	0	0
Disagree	2	3
Neutral	20	33
Agree	31	52
Strongly Agree	7	12
	60	100



52% of Phy.agree that new combination of drugs influences their Px Patterns.

Table 4 **Does Easy availability of brand Influences their Px. Patternns**

Weightage	No.	%
STRONGLY DISAGREE	0	0
Disagree	0	0
Neutral	14	23
Agree	37	62
Strongly Agree	9	15
	60	100

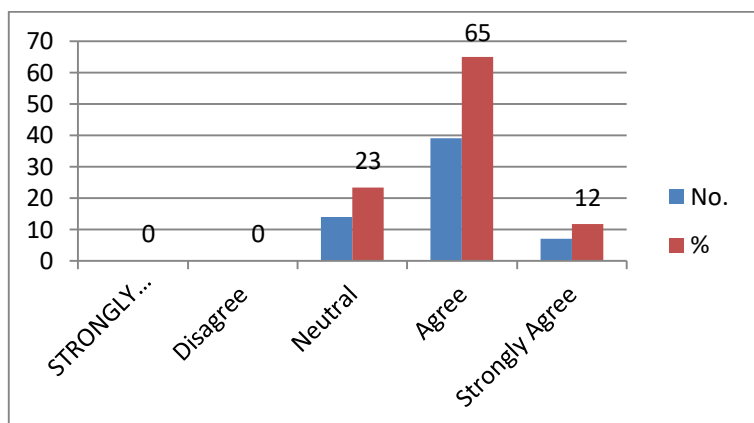


62% of Phy.agree that Easy availability of brand influences theirPx. Patterns.

Does Patient compliance & Doses influences their Px. Patterns

Table 5

Weightage	No.	%
STRONGLY DISAGREE	0	0
Disagree	0	0
Neutral	14	23
Agree	39	65
Strongly Agree	7	12
	60	100

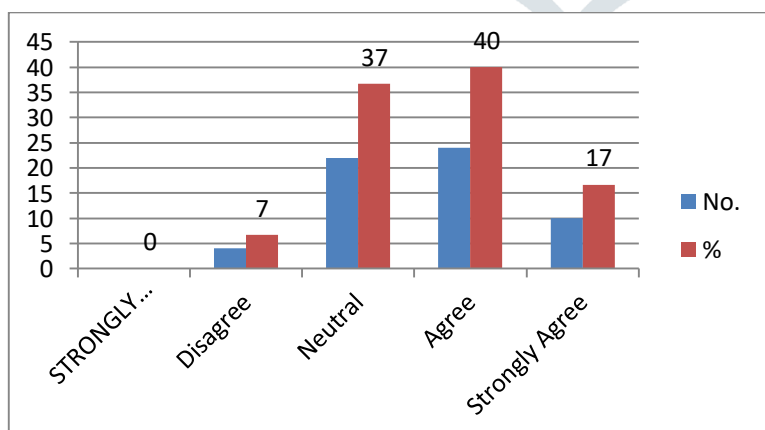


65% of Phy.agree that Patient Compliance & Doses influences their Px. Patterns.

Does Image and rapport of the Co./Company people influences their Px. Patterns.

Table 6

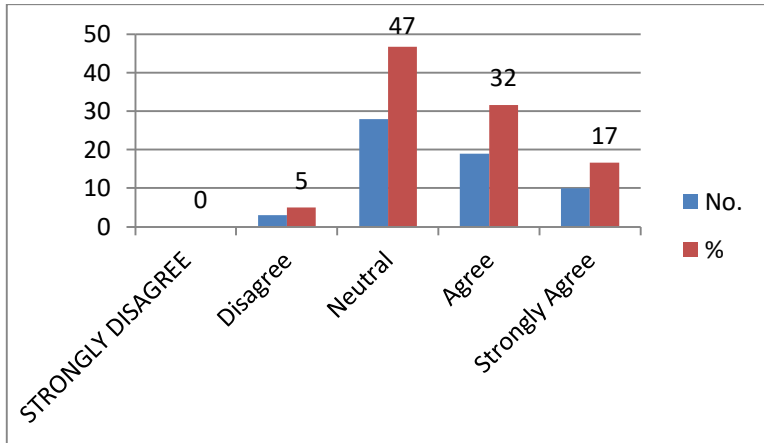
Weightage	No.	%
STRONGLY DISAGREE	0	0
Disagree	4	7
Neutral	22	37
Agree	24	40
Strongly Agree	10	17
	60	100



40% of Phy.agree 37% of them are neutral that image & rapport of the Co. & their people influences Px. Patterns.

Table 7 Does regular visits of M.R. Influences Px. Patterns

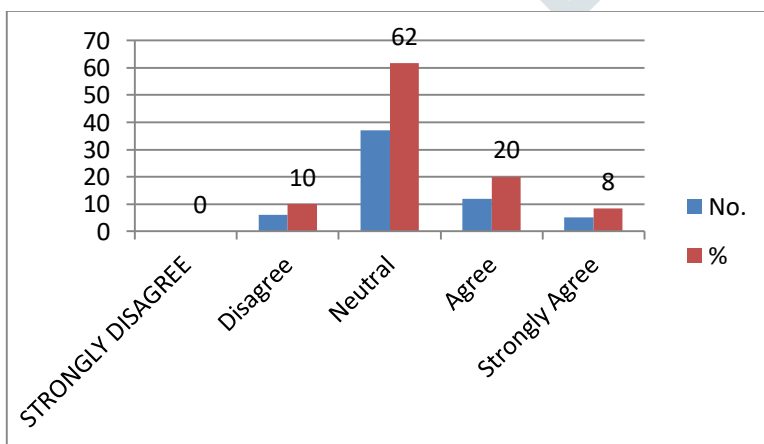
Weightage	No.	%
STRONGLY DISAGREE	0	0
Disagree	3	5
Neutral	28	47
Agree	19	32
Strongly Agree	10	17
	60	100



47% of Phy. are neutral & 32% of them agree that regular visits of M.R. Influences Px. Patterns.

Table 8 Does good communication & product knowledge of M.R. Influences Px. Patterns

Weightage	No.	%
STRONGLY DISAGREE	0	0
Disagree	6	10
Neutral	37	62
Agree	12	20
Strongly Agree	5	8
	60	100

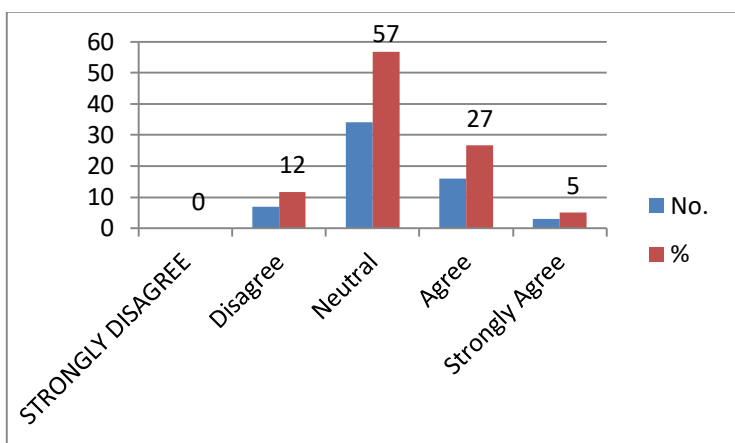


62% of Phy. are neutral & 20% of them agree that good comm. & product knowledge of M.R. Influences Px. Patterns.

Does Px. Of KOL (Key Opinion Leader) Influences Px. Patterns

Table 9

Weightage	No.	%
STRONGLY DISAGREE	0	0
Disagree	7	12
Neutral	34	57
Agree	16	27
Strongly Agree	3	5
	60	100

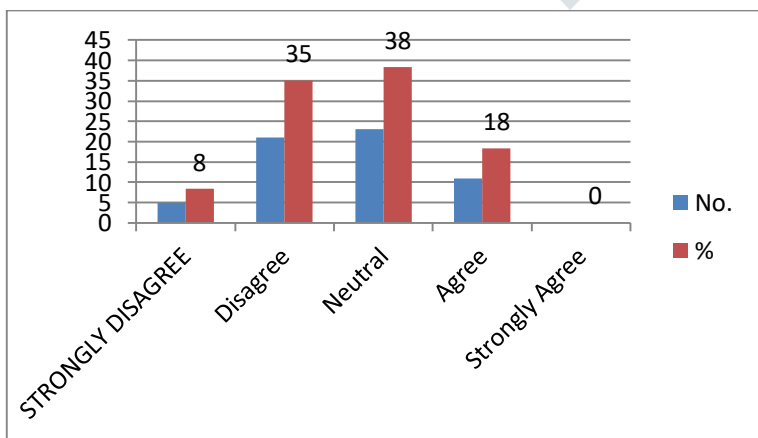


57% of Phy. are neutral & 27% of them agree that Px. Of KOL influences Px. Patterns.

Does Scientific literature/Journal or Books offered by Companies Influences Px. Patterns

Table 10

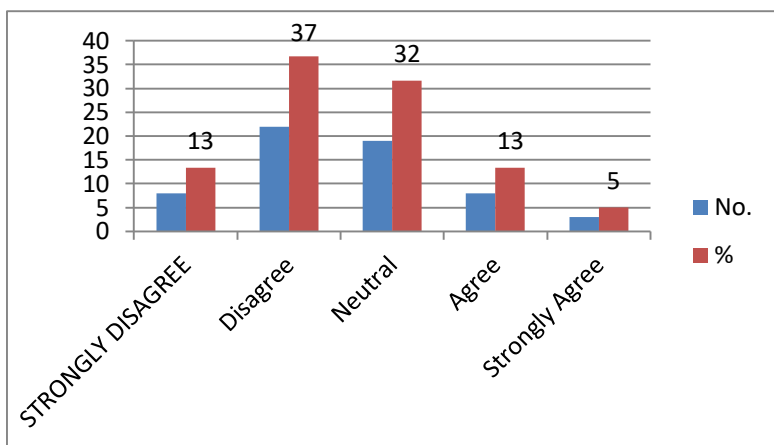
Weightage	No.	%
STRONGLY DISAGREE	5	8
Disagree	21	35
Neutral	23	38
Agree	11	18
Strongly Agree	0	0
	60	100



38% of Phy. are neutral & 35% of them disagree that Scientific Lit./Journal or Books offered by Co. influences Px. Patterns.

Table 11 **Does samples offered by Companies Influences Px. Patterns**

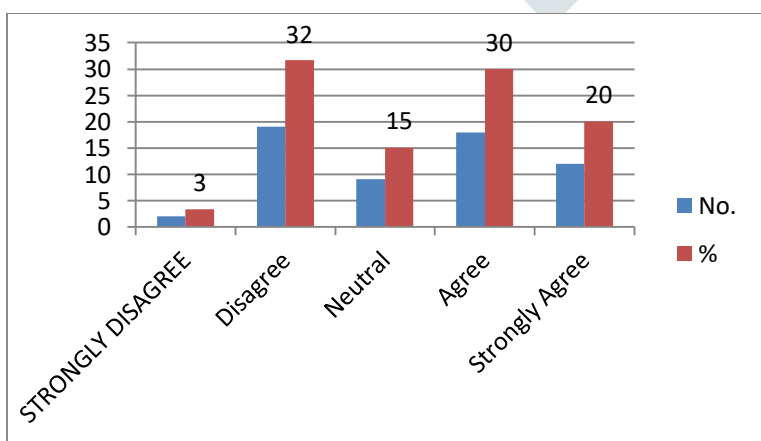
Weightage	No.	%
STRONGLY DISAGREE	8	13
Disagree	22	37
Neutral	19	32
Agree	8	13
Strongly Agree	3	5
	60	100



37% of Phy.disagree& 32% of them are neutral that Samples offered by Co. influences Px Patterns.

Table 12 **Does Clinical Trians/Marketing survelliance offered by Companies Influences Px. Patterns**

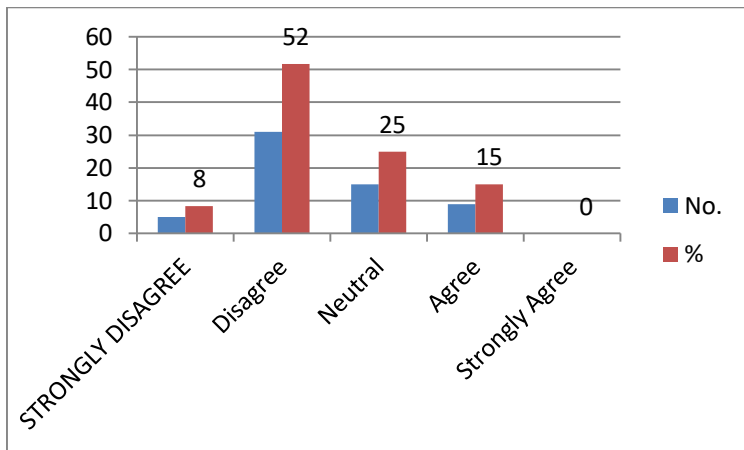
Weightage	No.	%
STRONGLY DISAGREE	2	3
Disagree	19	32
Neutral	9	15
Agree	18	30
Strongly Agree	12	20
	60	100



32% of Phy.disagree& 30% of them agree that Clinical Trials/ Marketing Survelliance offered by Co. influences Px Patterns.

Table 13 Does High Value Gifts offered by Companies Influences Px. Patterns

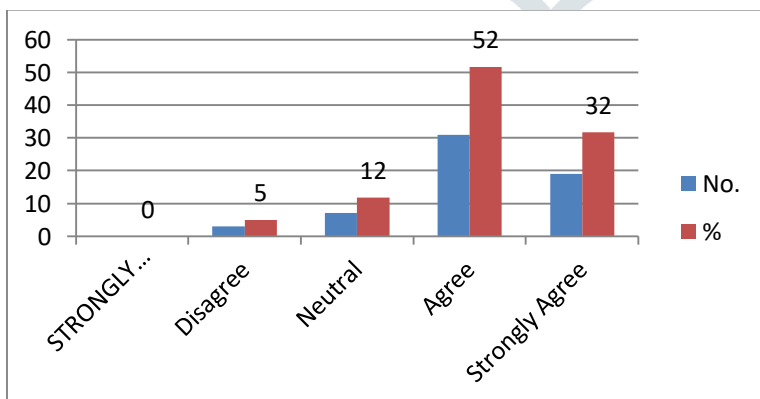
Weightage	No.	%
STRONGLY DISAGREE	5	8
Disagree	31	52
Neutral	15	25
Agree	9	15
Strongly Agree	0	0
	60	100



52% of Phy.disagree that High value gifts offered by Co. influences Px Patterns.

Table 14 Does Sponsorship of National/International Conference offered by Companies Influences Px. Patterns

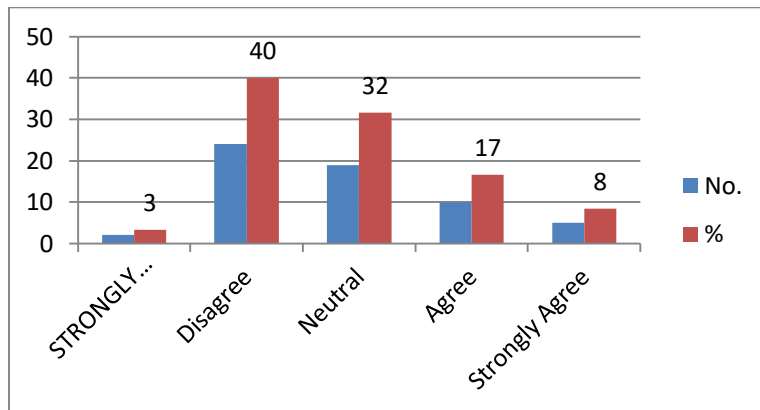
Weightage	No.	%
STRONGLY DISAGREE	0	0
Disagree	3	5
Neutral	7	12
Agree	31	52
Strongly Agree	19	32
	60	100



52% of Phy.agree& 32% of them strongly agree that sponsorship of National/International conference offered by Co. influences Px. Patterns.

Table 16 Does Camp/Patient Benefit Programme offered by Companies Influences Px. Patterns

Weightage	No.	%
STRONGLY DISAGREE	2	3
Disagree	24	40
Neutral	19	32
Agree	10	17
Strongly Agree	5	8
	60	100



40 % of Phy. Disagree & 32% of them are neutral that Camps/Patient Benefit Programme offered by Co. influences Px. Patterns.

Conclusions & Findings:-

Pharmaceutical selling is different than other types of selling, as here the decision maker Doctor (Physician) himself is neither the user nor the payer. The patient who actually buys the brand, virtually has no control on which medicine (brand) of OAD, he has to use/consume. Moreover, due to immense competition & me-too brands, it is difficult to get sales of OAD'S. Therefore, it is essential to analyse and understand the factors which influences prescription pattern of physicians to make strategies and effective promotional tools.

- 43% of the Physicians agree that price influences their prescription (Px.) pattern.
- 52% of Physicians agree & 30% strongly agree that Research Molecule influences their Px. Patterns.**
- 52% of Physicians agree new combination of drugs influences their Px. Patterns.
- 62% of Physicians agree that easy availability of brand influences their Px. Patterns.
- 65% of Physicians agree that Patient Compliance & Doses influences their Px. Patterns.
- 38% of Physicians are neutral & 35% of them disagree that Scientific Lit./Journal or Books offered by Co. influences their Px. Patterns.
- 37% of Physicians disagree & 32% of them are neutral that Samples offered by Co. influences their Px. Patterns.
- 52% of Physicians disagree that High value gifts offered by Co. influences their Px. Patterns
- 52% of Physicians agree & 32% of them strongly agree that sponsorship of National/International conference offered by Co. influences their Px. Patterns.**
- 42% of Physicians agree & 23% of them strongly agree that CMEs/Clinical Meets offered by Co. influences their Px. Patterns.

Point no.2, clearly proved alternative Hypothesis- I that,

‘Research Molecule highly influences the prescription pattern of physicians’&

Point no. 9. also clearly proved alternative Hypothesis- II that,

‘Prescription pattern of physician is being highly affected by National/International Sponsorship of conferences by pharmaceutical companies’.

Few factors like Price, Easy availability of brands, Patients compliance and Dose, CMEs/Clinical meets are also important factors influencing physician’s prescription pattern. Whereas, Promotional inputs like Scientific literature/Journal subscription or Books, Samples, Detection Camps should be offered only after their consultation & High value gifts should be avoided by pharmaceutical companies.

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